

Brant A. Schumaker

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EDUCATION

Ph.D., Epidemiology, University of California, Davis. December, 2010.
Dissertation: The Epidemiology of Brucellosis in Yellowstone National Park.
Advisor: Dr. Tim Carpenter.

Master of Preventive Veterinary Medicine, University of California, Davis, June 2006.
Thesis: Evaluation of the Western Immunoblot for Use in Diagnosing *Brucella abortus* Infections in Elk. Advisor: Dr. Michael Ziccardi.

Doctor of Veterinary Medicine, University of California, Davis, June 2005.
Wyoming State Veterinary License #1475
California State Veterinary License #15888
USDA accreditation

Bachelor of Science, Biological Sciences, University of California, Davis, graduated with honors, June 2001.
Minor: Avian Science

PROFESSIONAL EMPLOYMENT

Associate Professor, Veterinary Epidemiologist, 2016-Present

Department of Veterinary Science, Wyoming State Veterinary Laboratory, University of Wyoming, Laramie, Wyoming

Job Description: 40% research, 35% diagnostic service, 18% teaching, 5% university service, 2% advising

Research foci: Wildlife-livestock-human interface disease management; Diagnostic test development/validation; Transmission dynamics and risk assessment; Outbreak investigations

Assistant Professor, Veterinary Epidemiologist, 2010-2016

Department of Veterinary Science, Wyoming State Veterinary Laboratory, University of Wyoming, Laramie, Wyoming

Graduate Student Researcher, 2006-2010

Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis

Veterinary Graduate Academic Fellow, 2006-2008

Department of Medicine and Epidemiology, School of Veterinary Medicine, University of California, Davis

Relief Veterinarian, 2005-2009

Various practices, Sacramento, California

AWARDS & HONORS

Gamma Sigma Delta Agriculture Honor Society (Inducted 2014)
Nominee, UW College of Agriculture and Natural Resources Outstanding Advisor Award, 2012
Nominee, UW John P. Ellbogen Meritorious Classroom Teaching Award, 2011
Awardee, Veterinary Medical Loan Repayment Program
Finalist, Science & Technology Policy Fellowship, American Association for the Advancement of Science, 2010-2011
U.S. Department of Homeland Security Career Development Fellow, Center for Foreign Animal and Zoonotic Disease Defense, 2009-2010
Outstanding Graduate Student Teaching Award, UC Davis, May, 2008
Samson Fellowship (2005)
Auxiliary to the California Veterinary Medical Association Grant (2004/05)
Theodora Peigh dual-degree scholar (2004)
Regent scholar (veterinary school and undergraduate)
Phi Beta Kappa National Honor Society
Phi Kappa Phi National Honor Society
Golden Key National Honor Society
Eagle Scout

PUBLICATIONS

IN REVIEW

Boroff, K., M. Kauffman, D. Peck, E. Maichak, B. Scurlock, and B. SCHUMAKER. Cost-benefit analysis of elk brucellosis seroprevalence reduction in the southern greater Yellowstone area. Submitted to *Preventive Veterinary Medicine*.
Role: Directly mentored students as Master's co-advisor and committee member.

DeVivo, M.T., D.R. Edmunds, M.J. Kauffman, B.A. SCHUMAKER, J. Binfet, T.J. Kreeger, B.J. Richards, H.M. Schätzl, and T.E. Cornish. Endemic chronic wasting disease causes mule deer population decline in Wyoming. Submitted to *PLOS ONE*.
Role: Directly mentored student as PhD committee member.

Edmunds, D.R., W.E. Cook, **B.A. SCHUMAKER**, T.J. Kreeger, F.G. Lindzey, and T.E. Cornish. Risk factors and genetic susceptibility associated with acquiring chronic wasting disease in white-tailed deer in the endemic region of Wyoming. Submitted to the *Journal of Wildlife Diseases*.
Role: Directly mentored student as PhD committee member.

Edmunds, D.R., M.J. Kauffman, S.E. Albeke, R.G. Grogan, F.G. Lindzey, D.E. Legg, W.E. Cook, **B.A. SCHUMAKER**, T.J. Kreeger, and T.E. Cornish. Impacts of chronic wasting disease on the movement ecology of white-tailed deer in Wyoming. Submitted to the *Journal of Wildlife Management*.
Role: Directly mentored student as PhD committee member.

Edmunds, D.R., **B.A. SCHUMAKER**, M.J. Kauffman, R.G. Grogan, F.G. Lindzey, W.E. Cook, T.J. Kreeger, and T.E. Cornish. White-tailed deer demography in a high prevalence chronic wasting disease area of Wyoming. Submitted to *PLoS ONE*.
Role: Directly mentored student as PhD committee member.

Kauffman, M., D. Peck, B. Scurlock, J. Logan, T. Robinson, W. Cook, K. Boroff, and **B. SCHUMAKER**. A citizen-science based risk model for bovine brucellosis transmission from elk to cattle. Submitted to *Preventive Veterinary Medicine*.
Role: Directly mentored student as Master's co-advisor.

ARTICLES IN PEER-REVIEWED JOURNALS

1. Clifford, D.L., **B.A. SCHUMAKER**, T.R. Stephenson, V.C. Bleich, M.L. Cahn, B.J. Gonzales, W.M. Boyce, and J.A.K. Mazet. 2009. Assessing disease risk at the wildlife-livestock interface: a study of Sierra Nevada bighorn sheep. *Biological Conservation* 142: 2559-2568.
Note: *This was the first quantitative risk assessment of the risks of pathogen transmission between domestic and bighorn sheep.*
Role: Directed risk model and analysis design and implementation.
2. **SCHUMAKER, B.A.**, J.A.K. Mazet, B.J. Gonzales, P.H. Elzer, S.K. Hietala, and M.H. Ziccardi. 2010. Evaluation of the western immunoblot as a detection method for *Brucella abortus* exposure in elk. *Journal of Wildlife Diseases* 46 (1): 87-94.
Role: Directly from Master's thesis.
3. **SCHUMAKER, B.A.**, B.A. Corso, J.C. Rhyan, L.M. Philo, M.D. Salman, and I.A. Gardner. 2010. Evaluation of the fluorescence polarization assay for detection of *Brucella abortus* antibodies in bison in a natural setting. *Comparative Immunology, Microbiology & Infectious Diseases* 33 (6): e119-e125.
Note: *A Bayesian analysis of brucellosis testing in a free-ranging bison population.*
Role: Directly from Dissertation work.
4. **SCHUMAKER, B.A.**, D.E. Peck, and M.E. Kauffman. 2012. Brucellosis in the greater Yellowstone area: Disease management at the wildlife-livestock interface. *Human Wildlife Interactions* 6 (1): 48-63.
Note: *A review paper discussing the epidemiology and economic issues of brucellosis management in the greater Yellowstone area.*
5. Chapinal, N., B.T. Elkin, D.O. Joly, **B.A. SCHUMAKER**, and C. Stephen. 2012. Agreement between the caudal fold test and serological tests for the detection of *Mycobacterium bovis* infection in bison. *Preventive Veterinary Medicine* 105 (4): 326-330.
Role: Contributing author.
6. **SCHUMAKER, B.A.**, M.M. Miller, P. Grosdidier, J.L. Cavender, D.L. Montgomery, T.E. Cornish, R.M. Farr, M. Driscoll, L.J. Maness, T. Gray, D. Petersen, W.L. Brown, J. Logan, and D. O'Toole. 2012. Canine distemper outbreak in pet store puppies linked to a high-volume dog breeder. *Journal of Veterinary Diagnostic Investigation* 24 (6): 1094-1098.
Note: *This is one of the only manuscripts discussing disease in canine breeding facilities.*
Role: Primary author; conducted epidemiologic analyses
7. **SCHUMAKER, B.** Risks of *Brucella abortus* spillover in the greater Yellowstone area. 2013. *OIE Scientific and Technical Review* 32 (1): 71-77.
Note: *An invited review of interspecies Brucella abortus transmission in the greater Yellowstone area.*
8. Miller, M.M., D. O'Toole, J.L. Cavender, T.E. Cornish, T.G. Dawson, J.M. Smylie, J.H. Fox, K.L. Hill, D.L. Montgomery, M. Vasquez, **B.A. SCHUMAKER**. 2013. Vaccine associated mucosal

disease case study: demonstrating the importance of subsequent herd PI testing. *The Bovine Practitioner* 47 (2): 84-93.

Role: Direct contributions to analyses and manuscript writing.

9. Dohna, H., D.E. Peck, B.K. Johnson, A. Reeves, and **B.A. SCHUMAKER**. 2014. Wildlife-livestock interactions in a western rangeland setting: quantifying disease-relevant contacts. *Preventive Veterinary Medicine* 113 (4): 447-456.

Note: *This manuscript takes advantage of an impressive dataset of cattle, deer, and elk locations in the Starkey Experimental Forest.*

Role: Direct contributions to collaborative team, scientific design and manuscript writing.

10. Williams, A.L., T.J. Kreeger, and **B.A. SCHUMAKER**. 2014. Genetic selection favoring reduced susceptibility to chronic wasting disease in Rocky Mountain elk. *Ecosphere* 5 (5), Art. 60, pgs 1-10.

Note: *This is an important paper that models disease impacts on a high profile Wyoming wildlife population.*

Role: Directly mentored student as MS major advisor.

11. Jin, Y., **B. SCHUMAKER**, J. Logan, and C. Yao. 2014. Risk factors associated with bovine trichomoniasis in beef cattle identified by a questionnaire. *Journal of Medical Microbiology* 63 (9): 896-902.

Role: Directly mentored student on analyses and manuscript writing as MS committee member.

12. Shirima, G.M., S.N. Masola, O.N. Malangu, and **B.A. SCHUMAKER**. 2014. Outbreak investigation and control case report of brucellosis: experience from livestock research center Mpwapwa Tanzania. *Onderstepoort Journal of Veterinary Research* 81 (1): 1-4.

Note: *This manuscript resulted from a collaboration with a visiting Borlaug fellow from Tanzania who studied brucellosis diagnostics and epidemiology at the University of Wyoming.*

Role: Directly mentored scientific fellow in manuscript writing.

13. Chapinal, N., **B.A. SCHUMAKER**, B.T. Elkin, D.O. Joly, and C. Stephen. 2015. Bayesian analysis to evaluate tests for the detection of *Mycobacterium bovis* infection in free-ranging wild bison in the absence of a gold standard. *Journal of Wildlife Diseases* 51 (3): 619-625.

Note: *This paper builds on prior research on Bayesian methods in the absence of a gold-standard test to evaluate bovine tuberculosis in free-ranging bison.*

Role: Direct mentorship of post-doc student on analysis and manuscript writing

14. Hull, N.C., D. O'Toole, M.M. Miller, H. Shoults, R. Deck, W. Jones, G.C. Johnson, D.P. Shaw, and **B.A. SCHUMAKER**. 2015. Canine dysautonomia in a litter of Havanese puppies. *Journal of Veterinary Diagnostic Investigation* 27 (5): 627-631.

Role: Directly mentored student as P.I./PhD major advisor.

15. Gerstner, S., J. Adamovicz, J. Duncan, W. Laegreid, K. Marshall, J. Logan, and **B. SCHUMAKER**. 2015. Prevalence and risk factors associated with ovine progressive pneumonia in sheep flocks in Wyoming. *Journal of the American Veterinary Medical Association* 247 (8): 932-937.

Role: Directly mentored student as P.I.

16. Speiser, K.L., **B.A. SCHUMAKER**, W.E. Cook, T.E. Cornish, K.M. Cammack, and M.M. Miller. 2016. Comparison of the humoral response between sheep vaccinated with a killed-virus vaccine and those vaccinated with a modified-live virus vaccine against bluetongue virus serotype 17. *Journal of the American Veterinary Medical Association* 248 (9): 1043-1049.

Role: Directly mentored student as MS committee member.

BOOKS

Simmons, H. Contributors: C. Andreasen, C. Budke, P. Gibbs, T. Goldsmith, J. Kastner, T. McKenna, J. Rinderknecht, J. Roth, **B. SCHUMAKER**, C. Scott. 2012. *One Health Science and Technology: Supplement to Veterinary Science Preparatory Training for the Veterinary Assistant* Publication VM-006, FAZD Center.

REPORTS

Clifford, D.L., **B.A. SCHUMAKER**, T.R. Stephenson, V.C. Bleich, M. L. Cahn, B.J. Gonzales, and J.A.K. Mazet. 2007. Assessing risk of disease transmission at the wildlife-livestock interface: the case of the Sierra Nevada bighorn sheep. Department of Fish and Game Resource Assessment Program Final Report.

SCHUMAKER, B.A., J.A.K. Mazet, G.E. Plumb, and J. Varley. Yellowstone Wildlife Health Program organizational workshop report, Montana State University - June 6th & 7th, 2007.

SCHUMAKER, B.A., J.A.K. Mazet, J. Treanor, R. Wallen, I.A. Gardner, M. Zaluski, and T. E. Carpenter. 2010. A risk analysis of *Brucella abortus* transmission among bison, elk, and cattle in the northern greater Yellowstone area. Final Report to the California Cooperative Ecosystem Studies Unit, National Park Service.

Dohna, H., D.E. Peck, B.K. Johnson, A. Reeves, **B.A. SCHUMAKER**. 2011. Wildlife-livestock interaction in a western rangeland setting: Quantifying disease-relevant contact rates. Final Report to the Department of Homeland Security, Center for Foreign Animal and Zoonotic Disease Defense.

POPULAR ARTICLES

SCHUMAKER, B.A., C. Yao, and J. Logan. 2010. "Trichomoniasis in Wyoming Beef Cattle: A new study from the University of Wyoming". Published in the February issue of "Cow Country" the official magazine of the Wyoming Stockgrowers Association.

SCHUMAKER, B.A., M. Miller, T. Cornish, and D. O'Toole. 2011. "An outbreak of canine distemper originating in a large-scale canine breeding facility". Wyoming State Veterinary Laboratory Newsletter Volume 12, Issue 1.

SCHUMAKER, B.A., D. O'Toole, K. Drumhiller, and N. Hull. 2011. "Canine dysautonomia – Still a mystery". Wyoming State Veterinary Laboratory Newsletter Volume 12, Issue 3.

SCHUMAKER, B.A., G. Andrews, J. Gigley, M. Miller, W. Laegreid, W. Edwards, and N. Hull. 2015. "Development of a new test for diagnosis of livestock brucellosis". Agriculture Experiment Station Field Day Bulletin.

MEDIA APPEARANCES

Zuckerman, L. "Brain-attacking worm linked to decline of Wyoming moose". *Reuters* Oct 7, 2011.

Miller, S. "Seeking solutions: Scientists work to answer vital questions leading to wildlife and livestock health and management". *UWyo Magazine* 15 (1) Sep 2013.

"Canine dysautonomia case confirmed in Iowa". *IVMA Update* 23 (5) May 2015 issue: P16-17.

ABSTRACTS & PRESENTATIONS (10 invited) (bold font indicates the presenter)

1. **SCHUMAKER, B.A.** Ectopic ureters. UC Davis Veterinary Medical Teaching Hospital, July, 2002, Davis, CA.
2. **SCHUMAKER, B.A.** Pacheco's disease. Los Angeles Zoo, August, 2004, Los Angeles, CA.
3. **SCHUMAKER, B.A.**, J.A.K. Mazet, B.J. Gonzales, P.H. Elzer, S.K. Hietala, and M.H. Ziccardi. Evaluation of the western immunoblot for use in diagnosing *Brucella abortus* infections in elk. 53rd Wildlife Disease Association Annual Conference, August 31, 2004, San Diego, CA.
4. **SCHUMAKER, B.A.** Brucellosis testing in elk populations. UC Davis Wildlife and Aquatic Animal Medicine Club Symposium, January 21, 2006, Davis, CA.
5. **SCHUMAKER, B.A.**, T.E. Carpenter, and P.J. White. Interspecies Disease Dynamics of Brucellosis in Yellowstone National Park. Poster presented at the 1st Annual Conference on Infectious Disease Dynamics, December 1-3, 2008, Pacific Grove, CA.
6. **SCHUMAKER, B.A.** The collaborative approach to research: Advantages and challenges. Biostatistics and Epidemiology Joint Symposium, March 6, 2009, Davis, CA.
7. **SCHUMAKER, B.A.**, P.J. White, J.A.K. Mazet, R. Frey, R. Wallen, J. Treanor, K. Aune, and T.E. Carpenter. A risk analysis of *Brucella* transmission among bison, elk, and cattle in the northern greater Yellowstone area (GYA). Poster presented at the 3rd Annual Department of Homeland Security University Network Summit, March 16, 2009, Washington, D.C.
8. **SCHUMAKER, B.A.** Brucellosis risk assessment in the greater Yellowstone Area. *Invited presentation* for the Southeastern Cooperative Wildlife Disease Study workshop on Wildlife Disease Risk Analysis, May, 2009, Athens, GA.
9. **SCHUMAKER, B.A.**, P.J. White, J.A.K. Mazet, R. Frey, R. Wallen, J. Treanor, and T.E. Carpenter. A risk analysis of *Brucella* transmission among bison, elk, and cattle in the northern greater Yellowstone area (GYA). Poster presented at the Annual Meeting for the Center of Foreign Animal and Zoonotic Disease Defense, June 30, 2009, College Station, TX.
10. **SCHUMAKER, B.A.**, B. Corso J. Rhyan, M. Philo, M. Salman, and I.A. Gardner. Field evaluation of the fluorescence polarization assay for use in diagnosing *Brucella abortus* infections in bison in the greater Yellowstone area. Greater Yellowstone Brucellosis Research Meeting, July 30, 2009, Bozeman, MT.
11. **SCHUMAKER, B.A.**, B. Corso J. Rhyan, M. Philo, M. Salman, and I.A. Gardner. Field evaluation of the fluorescence polarization assay for use in diagnosing *Brucella abortus* infections in bison in the greater Yellowstone area. 58th Wildlife Disease Association Annual Conference, August 6, 2009, Blaine, WA.
12. **SCHUMAKER, B.A.**, P.J. White, J. Treanor, R. Frey, J.A.K. Mazet, and T.E. Carpenter. Northern GYA risk assessment. 113th Annual Meeting of the United States Animal Health Association, October 11, 2009, San Diego, CA.
13. **SCHUMAKER, B.A.**, P.J. White, J. Treanor, R. Frey, J.A.K. Mazet, and T.E. Carpenter. A risk analysis of *Brucella* transmission among bison, elk, and cattle in the northern greater Yellowstone area (GYA). Annual Conference of the Western Section of the Wildlife Society, January 28, 2010, Visalia, CA.

14. **SCHUMAKER, B.A.**, J.A.K. Mazet, J. Treanor, R. Wallen, A. Tam, I.A. Gardner, M. Zaluski, and T.E. Carpenter. A risk assessment of *Brucella* transmission among bison, elk, and cattle in the northern greater Yellowstone area (GYA). Poster presented at the Annual Meeting for the Center of Foreign Animal and Zoonotic Disease Defense, July 7, 2010, College Station, TX.
15. **SCHUMAKER, B.A.**, J.A.K. Mazet, J. Treanor, R. Wallen, I.A. Gardner, M. Zaluski, and T.E. Carpenter. A risk analysis of *Brucella abortus* transmission among bison, elk, and cattle in the northern greater Yellowstone area (GYA). Yellowstone Wildlife Health Program Strategic Planning Meeting, September 14, 2010, Bozeman, MT.
16. Logan, J., M. Drew, N. Anderson, E. Liska, **SCHUMAKER, B.A.**, and B. McCluskey. GYA wildlife-livestock interface panel discussion. 114th Annual Meeting of the United States Animal Health Association, November 16, 2010, Minneapolis, MN.
17. **SCHUMAKER, B.A.**, T.E. Carpenter, I.A. Gardner, J.A.K. Mazet. Brucellosis transmission dynamics in the northern greater Yellowstone area. 114th Annual Meeting of the United States Animal Health Association, November 16, 2010, Minneapolis, MN.
18. **SCHUMAKER, B.A.** Brucellosis diagnostic testing and risk assessment. Wyoming Veterinary Medical Association Winter Meeting, December 4, 2010, Casper, WY.
19. **SCHUMAKER, B.A.**, C. Yao, and J. Logan. Trichomoniasis in WY beef cattle. Producer meeting, March 2, 2011, Sundance, WY.
20. Kauffman, M., B.A. **SCHUMAKER**, D. Peck. Priorities for a new research program on the epidemiology and economics of bovine brucellosis in the greater Yellowstone area, WSVL March 30-31, 2011. Brucellosis Coordination Team meeting, April 21, 2011, Cody, WY.
21. **SCHUMAKER, B.A.** RB51 adult/booster vaccination field trials. Wyoming Brucellosis Coordination Team meeting, September 15, 2011, Lander, WY.
22. **SCHUMAKER, B.A.** and D. Peck. Cost-benefit analysis of a reduction in elk brucellosis seroprevalence in the southern greater Yellowstone area. Wyoming Brucellosis Coordination Team meeting, September 15, 2011, Lander, WY.
23. **SCHUMAKER, B.A.** An introduction to disease modeling. *Invited presentation* for the Wyoming Department of Health, Epidemiology Work Group, November 17, 2011, Cheyenne, WY.
24. Drumhiller, K., N. Hull, D. O'Toole, M. Dundas, and B.A. **SCHUMAKER**. Canine dysautonomia: The Wyoming story. Wyoming Veterinary Medical Association meeting, December 3, 2011, Casper, WY.
25. Williams, A., J. Henningsen, R. Gerhold, A. Courtemanch, and B.A. **SCHUMAKER**. Distribution and feeding patterns for Tabanid flies, the vector of the arterial worm of sheep and cervids, *Elaeophora schneideri*. Poster presented at The Wildlife Society Wyoming Chapter meeting, December 7, 2011, Jackson, WY.
26. Kauffman, M., B. Rashford, B. Scurlock, D. Peck, W. Cook, T. Cornish, W.H. Edwards, J. Logan, M. Ebinger, P. Cross, and B.A. **SCHUMAKER**. A cost-benefit analysis of reducing *B. abortus*

- seroprevalence in southern GYA elk. Poster presented at The Wildlife Society Wyoming Chapter meeting, December 7, 2011, Jackson, WY.
27. Kauffman, M., K. Boroff, B. Rashford, B. Scurlock, D. Peck, W. Cook, T. Cornish, W.H. Edwards, J. Logan, M. Ebinger, P. Cross, and B.A. SCHUMAKER. A cost-benefit analysis of reducing *B. abortus* seroprevalence in southern GYA elk. Wyoming Brucellosis Coordination Team meeting, April 12, 2012, Cody, WY.
 28. **SCHUMAKER, B.A.** and J. Adamovicz. RB51 booster studies. Wyoming Brucellosis Coordination Team meeting, April 12, 2012, Cody, WY.
 29. Williams, A., J. Henningsen, R. Gerhold, A. Courtemanch, and B.A. SCHUMAKER. Distribution and feeding patterns for Tabanid flies, the vector of the arterial worm of sheep and cervids, *Elaeophora schneideri*. Private donor meeting, April 28, 2012, Jackson, WY.
 30. **SCHUMAKER, B.A.** RB51 Safety Studies. Consortium for the Advancement of Brucellosis Science Meeting. June 14-15, 2012, Laramie, WY.
 31. Dohna, H., D.E. Peck, B.K. Johnson, A. Reeves, and **B.A. SCHUMAKER**. Wildlife-livestock interactions in a western rangeland setting: Quantifying disease-relevant contact rates. 61st Wildlife Disease Association. July 24, 2012, Lyon, France.
 32. Dohna, H., D.E. Peck, B.K. Johnson, A. Reeves, and B.A. SCHUMAKER. Contact rates between rangeland livestock and wild ungulates. 13th International Symposium on Veterinary Epidemiology and Economics. August 20-24, 2012, Maastricht, Netherlands.
 33. **SCHUMAKER, B.A.** and D. O'Toole. Dysautonomia in dogs. Neuroscience seminar. September 6, 2012, Laramie, WY.
 34. **SCHUMAKER, B.A.** RB51 and Cost-benefit studies. Brucellosis research meeting. September 11, 2012, Jackson, WY.
 35. **SCHUMAKER, B.A.**, D. Peck, H. Dohna, A. Reeves, and B. Johnson. Disease investigations at the wildlife-livestock interface. Animal Science seminar. September 21, 2012, Laramie, WY.
 36. Kauffman, M., B. Rashford, B. Scurlock, D. Peck, W. Cook, T. Cornish, H. Edwards, J. Logan, and B.A. SCHUMAKER. Resources selection functions for elk relative to cattle during the brucellosis transmission risk period in the southern GYA. Pathways to Success Conference & Training: Integrating Human Dimensions into Fish and Wildlife Management. September 24, 2012, Breckenridge, CO.
 37. Hull, N., K. Drumhiller, D. O'Toole, and B.A. SCHUMAKER. Epidemiological investigation of canine dysautonomia in Wyoming. American Association of Veterinary Laboratory Diagnosticians. October 21, 2012, Greensboro, NC.
 38. SCHUMAKER, B.A., M.M. Miller, J.L. Cavender, T.E. Cornish, D.L. Montgomery, D. O'Toole. Outbreak of canine distemper in pet store puppies linked to a high volume breeder. American Association of Veterinary Laboratory Diagnosticians. October 21, 2012, Greensboro, NC.
 39. **SCHUMAKER, B.A.** RB51 studies. 116th United States Animal Health Association – Brucellosis in the greater Yellowstone area subcommittee. October 21, 2012, Greensboro, NC.

40. **SCHUMAKER, B.A.**, M.M. Miller, J.L. Cavender, T.E. Cornish, and D.L. Montgomery. The US pet trade in dogs and contagious disease: animal welfare impacts of an outbreak of canine distemper. 116th United States Animal Health Association – Animal Welfare Committee. October 24, 2012, Greensboro, NC.
41. Edmunds, D., F. Lindzey, B.A. SCHUMAKER, W. Cook, T. Kreeger, M. Kauffman, R. Grogan, and T. Cornish. Epidemiologic effects of chronic wasting disease on white-tailed deer population vital rates in South East Wyoming. The Wildlife Society Wyoming Chapter. November 13, 2012, Laramie, WY.
42. Speiser, K., W. Cook, T. Cornish, B.A. SCHUMAKER, K. Cammack, and M. Miller. Risk analysis of bluetongue virus infection in wild and domestic ungulates in Wyoming using GIS. Poster presented at The Wildlife Society Wyoming Chapter meeting, November 13, 2012.
43. DeVivo, M., D. Edmunds, B. Richards, T. Kreeger, B.A. SCHUMAKER, H. Schatzl, M. Stuart, F. Pickard, T. Cornish. Susceptibility of mule deer (*Odocoileus hemionus*) to chronic wasting disease based on PrP genotype. Poster presented at The Wildlife Society Wyoming Chapter meeting, November 13, 2012.
44. Kauffman, M., K. Boroff, B. Rashford, B. Scurlock, D. Peck, W. Cook, T. Cornish, W.H. Edwards, J. Logan, and B.A. SCHUMAKER. An update on the cost-benefit analysis of reducing *B. abortus* seroprevalence in southern GYA elk. Poster presented at The Wildlife Society Wyoming Chapter meeting, November 13, 2012.
45. Dohna, H., D. Peck, A. Reeves, B. Johnson, and **B.A. SCHUMAKER**. Wildlife-livestock interactions in a western rangeland setting: Quantifying disease relevant contact rates. The Wildlife Society Wyoming Chapter. November 14, 2012, Laramie, WY.
46. Boroff, K., M. Kauffman, D. Peck, B. Scurlock, W. Cook, J. Logan, and B. SCHUMAKER. Cost-benefit analysis of elk brucellosis seroprevalence reduction in the southern GYA. International Symposium on Society and Resources. June 7, 2013, Estes Park, CO.
47. **SCHUMAKER, B.A.** Dysautonomia in dogs. *Invited presentation* for the Association of Veterinary Microbiologists Heartland Chapter meeting. July 12, 2013, Laramie, WY.
48. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, **B.A. SCHUMAKER**. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. USAHA Subcommittee on Brucellosis in the Greater Yellowstone Area. October 20, 2013, San Diego, CA.
49. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, **B.A. SCHUMAKER**. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. *Invited presentation* for the USAHA Committee on Wildlife Diseases. October 20, 2013, San Diego, CA.
50. Edmunds, D.R., M.T. DeVivo, **B.A. SCHUMAKER**, M.J. Kauffman, R.G. Grogan, F.G. Lindzey, W.E. Cook, T.J. Kreeger, H. Schatzl, B.J. Richards, and T.E. Cornish. Chronic wasting disease ecology and epidemiology of mule deer and white-tailed deer in Wyoming. USAHA Committee on Wildlife Diseases. October 20, 2013, San Diego, CA.

51. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, **B.A. SCHUMAKER**. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. USAHA Committee on Brucellosis. October 21, 2013, San Diego, CA.
52. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and B.A. SCHUMAKER. Cost-benefit analysis for reducing bovine brucellosis seroprevalence in southern greater Yellowstone area elk. The Wildlife Society Wyoming Chapter. October 29, 2013, Rock Springs, WY.
53. DeVivo, M., D. Edmunds, B. Richards, T. Kreeger, B. SCHUMAKER, and T. Cornish. Microevolution of a mule deer (*Odocoileus hemionus*) population affected by high prevalence of chronic wasting disease in southeast Wyoming. Poster presented at The Wildlife Society Wyoming Chapter, October 29, 2013, Rock Springs, WY.
54. Williams, A., J. Henningsen, and B.A. SCHUMAKER. Understanding how tabanids influence the prevalence of *Elaeophora schneideri* in moose populations around Wyoming, USA. Poster presented at The Wildlife Society Wyoming Chapter. October 29, 2013, Rock Springs, WY.
55. Edmunds, D.R., B.A. SCHUMAKER, M.J. Kauffman, F.G. Lindzey, W.E. Cook, T.J. Kreeger, R.G. Grogan, and T.E. Cornish. Ecology, epidemiology, and proposed management of chronic wasting disease in white-tailed deer in Wyoming. The Wildlife Society Wyoming Chapter. October 30, 2013, Rock Springs, WY.
56. **SCHUMAKER, B.A.** Brucellosis projects at WSVL. *Invited presentation* for the WY State-Federal Animal Health Work Conference. November 15, 2013, Laramie, WY.
57. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and **B.A. SCHUMAKER**. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. Wyoming Veterinary Medical Association winter meeting. December 7, 2013, Casper, WY.
58. Kesterson, A.E., B.A. SCHUMAKER, S. Lake, S. Olsen, and J. Adamovicz. Evaluation of the role of cell-mediated immunity in efficacy of experimental alternative schedule of live attenuated RB51 vaccine against brucellosis in cattle. Poster presented at the Conference of Research Workers in Animal Diseases. December 8, 2013, Chicago, IL.
59. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and **B.A. SCHUMAKER**. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. Wyoming Brucellosis Coordination Team meeting, April 17, 2014, Lander, WY.
60. Shoults, H., N.C. Hull, D. O'Toole, J. Fox, and B.A. SCHUMAKER. Outbreak investigation: Multiple cases of canine dysautonomia in a single household. Poster presented at the Rocky Mountain Branch of the American Society of Microbiology, April 19, 2014, Laramie, WY.
61. Williams, A., J. Henningsen, and B.A. SCHUMAKER. Comparing vectors among Wyoming moose populations with varying prevalence of *Elaeophora schneideri*. The North American Moose Conference. May, 2014, Girdwood, AK.
62. **SCHUMAKER, B.A.** Chronic wasting disease in North American ungulates. *Invited presentation* for the Southeastern Cooperative Wildlife Disease Study workshop. May, 2014, Athens, GA.

63. Lopez, J., N.C. Hull, J. Miller, D.J. Berry, and B.A. SCHUMAKER. Evaluation of commercial DNA extraction kits for *Brucella abortus* Strain 19. Poster presented at the National Science Foundation Experimental Program to Stimulate Competitive Research (EPSCoR) Summer Research Apprenticeship Program symposium. July 18, 2014, Laramie, WY.
64. Lopez, J., N.C. Hull, J. Miller, D.J. Berry, and B.A. SCHUMAKER. Evaluation of commercial DNA extraction kits for *Brucella abortus* Strain 19. National Science Foundation Experimental Program to Stimulate Competitive Research (EPSCoR) Summer Research Apprenticeship Program symposium. July 18, 2014, Laramie, WY.
65. DeVivo, M.T., D. Edmunds, B. Richards, T. Kreeger, B.A. SCHUMAKER, H. Schatzl, J. Binfet, and T. Cornish. Microevolution of mule deer affected by chronic wasting disease prevalence in southeast Wyoming. Poster presented at the Wildlife Disease Association. July 29, 2014, Bernalillo, NM.
66. Williams, A., W. Laegreid, M. Miller, J. Henningsen, and B.A. SCHUMAKER. Explaining elaeophorosis prevalence by examining the distribution and host preferences of tabanids. Poster presented at the Wildlife Disease Association. July 29, 2014, Bernalillo, NM.
67. Williams, A.L., W. Laegreid, M. Miller, J. Henningsen, and B.A. SCHUMAKER. Connecting tabanid relevance and prevalence with elaeophorosis in Wyoming moose. Wyoming Chapter of the Wildlife Society/ Central Mountains and Plains Section Joint Annual Meeting. August 26, 2014, Sheridan, WY.
68. DeVivo, M.T., D. Edmunds, B. Richards, T. Kreeger, B.A. SCHUMAKER, H. Schatzl, J. Binfet, and T. Cornish. Natural selection of mule deer associated with reduced susceptibility to chronic wasting disease. Wyoming Chapter of the Wildlife Society/ Central Mountains and Plains Section Joint Annual Meeting. August 26, 2014, Sheridan, WY.
69. Hull, N.C. G. Andrews, J. Gigley, W. Laegreid, M. Miller, and B.A. SCHUMAKER. Development of *Brucella* PCR assay and deployment in East Africa. Poster presented at the Department of Homeland Security – Zoonotic Animal Disease Defense conference. September 9, 2014, Nashville, TN.
70. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and B.A. SCHUMAKER. Use of citizen science to develop a cost-benefit analysis for bovine brucellosis seroprevalence reduction in southern greater Yellowstone area elk. Pathways to Success Conference & Training: Integrating Human Dimensions into Fish and Wildlife Management. October 6, 2014, Estes Park, CO.
71. Williams, A., T. Kreeger, and **B.A. SCHUMAKER**. Chronic wasting disease model of genetic selection favoring prolonged survival in Rocky Mountain elk (*Cervus elaphus*). **Invited presentation** for a meeting of United States Forest Service and Bureau of Land Management personnel. October 10, 2014, Jackson, WY.
72. Saeed, B.N., K. Mills, D. O'Toole, B.A. SCHUMAKER, B. Bisha, W. Laegreid. An improved primer set for the genotyping of *Clostridium perfringens*. American Association of Veterinary Laboratory Diagnosticians. October 17, 2014, Kansas City, MO.
73. Miller, M., A. Boerger-Fields, K. Mills, K. Musgrave, and B.A. SCHUMAKER. Terrestrial rabies in Wyoming, 3 decades of tracking. Poster presented at the American Association of Veterinary Laboratory Diagnosticians. October 17, 2014, Kansas City, MO.

74. Hull, N.C., H. Shoults, D. O'Toole, J. Fox, M. Miller, G. Johnson, D. Shaw, and B.A. SCHUMAKER. Outbreak investigation: Multiple cases of canine dysautonomia in a single household. Poster presented at the American Association of Veterinary Laboratory Diagnosticians. October 18, 2014, Kansas City, MO.
75. **SCHUMAKER, B.A.** Impacts of CWD on captive and free-ranging cervids. *Invited presentation* for the United States Animal Health Association Committee on Captive Wildlife and Alternative Livestock. October 21, 2014, Kansas City, MO.
76. DeVivo, M.T., D. Edmunds, B. Richards, T. Kreeger, B.A. SCHUMAKER, H. Schatzl, J. Binfet, and T. Cornish. Microevolution of a mule deer population affected by high chronic wasting disease prevalence in Southeast Wyoming. The Wildlife Society 21st Annual Conference. October 26, 2014, Pittsburgh, PA.
77. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and B.A. SCHUMAKER. An economic evaluation of management strategies aimed at reducing bovine brucellosis seroprevalence in southern greater Yellowstone area elk. The Wildlife Society. October 29, 2014, Pittsburgh, PA.
78. **SCHUMAKER, B.A.** Impacts of CWD on captive and free-ranging cervids. Wyoming Veterinary Medical Association. December 6, 2014, Casper, WY.
79. Kauffman, M., K. Boroff, D. Peck, B. Scurlock, W. Cook, J. Logan, T. Robinson, and B. SCHUMAKER. Cost-benefit analysis for reducing bovine brucellosis prevalence in southern GYA elk. *Invited presentation* for the National Academy of Sciences committee on Revisiting Brucellosis in the Greater Yellowstone Area. September 16, 2015, Moran, WY.
80. D. Peck, B. Wilson, T. Roberts, S. Ruff, K. Boroff, M. Kauffman, W. Cook, J. Ritten, C. Bastian, B. SCHUMAKER. "Cost of brucellosis prevention and management in GYA cattle". *Invited presentation* for the National Academy of Sciences committee on Revisiting Brucellosis in the Greater Yellowstone Area. September 16, 2015, Moran, WY.
81. D. Peck, B. Wilson, T. Roberts, S. Ruff, K. Boroff, M. Kauffman, W. Cook, J. Ritten, C. Bastian, B. SCHUMAKER. 2015. "Brucellosis through an economist's lens: making sure the cure isn't worse than the disease". USGS-hosted Annual Brucellosis Research Meeting, Jackson, Wyoming. September 24, 2015.
82. Dannele Peck, Bryan Wilson, Trent Roberts, Shane Ruff, Kari Boroff, Mandy Kauffman, Walt Cook, John Ritten, Chris Bastian, BRANT SCHUMAKER "Brucellosis through an Economist's Lens". Annual Meeting of the U.S. Animal Health Association, Providence, Rhode Island. October 25, 2015.
83. Boroff, K., D. Peck, M. Kauffman, and B. SCHUMAKER. Cost-benefit analysis of elk brucellosis prevalence reduction in the southern Greater Yellowstone Area. 14th International Symposium on Veterinary Epidemiology and Economics. November 3-7, 2015, Mérida, Yucatán, Mexico.
84. Williams, A., T. Kreeger, and **B. SCHUMAKER**. Chronic wasting disease modeling in Rocky Mountain elk. *Invited presentation* to the Wyoming Game and Fish Commission meeting. November 6, 2015, Laramie, WY.

Last updated 5/16/16

85. Vaughan, C., N. Hull, J. Miller, and B. SCHUMAKER. The optimization of a novel qPCR assay for brucellosis. Poster presented at INBRE banquet. April 29, 2016, Laramie, WY.
86. Vaughan, C., N. Hull, J. Miller, and B. SCHUMAKER. The optimization of a novel qPCR assay for brucellosis. Undergraduate Research Day. April 30, 2016, Laramie, WY.
87. Miller, J., N. Hull, S. Amundson, C. Vaughan, S. Jacobs, and B. SCHUMAKER. Development and evaluation of real time PCR for detection and differentiation of *Brucella abortus* and vaccine strains. Undergraduate Research Day. April 30, 2016, Laramie, WY.

GRANTS

PROPOSALS UNDER REVIEW

Principal investigator, Rotary District 5440 Global Scholarship in support of Noah Hull. 2016-2018. Budget: \$30,000.

Principal investigator, INBRE Graduate Assistantship in support of Noah Hull. 2016-2017. Budget: \$31,350

PROPOSALS FUNDED (* denotes active grants)

UC Davis Wildlife Health Center Student Research Grant. "Evaluation of the western immunoblot for use in determining *Brucella abortus* infections in elk." 2002-2006. Budget: \$5,000. (Principal Investigator: Michael Ziccardi D.V.M., M.P.V.M., Ph.D.)

United States Department of Agriculture (USDA). "Assessment of brucellosis transmission among bison, elk and cattle in the northern greater Yellowstone area." 2008-2010. Budget: \$58,000. (Principal Investigator: Tim Carpenter, Ph.D.)

Center for Foreign Animal and Zoonotic Disease Defense (FAZD). "Livestock-wildlife interactions in a western rangeland setting: Impacts on epidemiologic models of FMD." 2009-2010. Budget: \$84,919. (Principal Investigator: Dannele Peck, Ph.D.)

Co-principal investigator, University of Wyoming, College of Agriculture and Natural Resources, Agricultural Experiment Station. "Trichomoniasis in Wyoming beef cattle." 2011-2013. Budget: \$60,000. (Principal Investigator: Chaoqun Yao, M.D., Ph.D.)

Principal investigator, University of Wyoming, College of Agriculture and Natural Resources Brucellosis Funds. "Adult and Booster Vaccination strategies to prevent brucellosis in at-risk cattle: A comparison of reproductive losses." 2011-2012. Budget: \$42,000.

Co-investigator, Wyoming Wildlife Livestock Disease Research Partnership. "Risk analysis of bluetongue virus infection in wild ungulates in Wyoming using GIS technology." 2011-2012. Budget: \$56,550. (Principal Investigator: Myrna Miller, D.V.M., Ph.D.)

Principal investigator, Wyoming Wildlife Livestock Disease Research Partnership. "Distribution and feeding patterns for Tabanid flies, the vector of the carotid worm of sheep and cervids." 2011-2014. Budget: \$83,880.

Principal investigator, Wyoming Wildlife Livestock Disease Research Partnership. "Cost-benefit analysis of a reduction in elk brucellosis seroprevalence in the southern greater Yellowstone area." 2011-2014. Budget: \$85,929.

Last updated 5/16/16

Principal investigator, USDA-APHIS cooperative agreement. “Cost-benefit analysis of a reduction in elk brucellosis seroprevalence in the southern greater Yellowstone area.” 2011-2013. Budget: \$175,000.

Co-investigator, USGS. “Population Level Impacts of Chronic Wasting Disease in Wyoming Mule Deer.” 2011-2015. Budget: \$500,000.” (Principal Investigator: Todd Cornish, DVM, Dip.ACVP, Ph.D.)

Co-principal investigator, University of Wyoming. “Evaluation of the Role of Cell-Mediated Immunity in Efficacy of Experimental Alternative Schedule of Live Attenuated RB51 Vaccine against Brucellosis in Cattle.” 2011-2013. Budget: \$74,471. (Principal Investigator: Jeff Adamovicz, Ph.D., RBP)

Co-principal investigator, University of Wyoming, College of Agriculture and Natural Resources, Agricultural Experiment Station. “Evaluation of the Role of Cell-Mediated Immunity in Efficacy of Experimental Alternative Schedule of Live Attenuated RB51 Vaccine against Brucellosis in Cattle.” 2011-2013. Budget: \$53,829. (Principal Investigator: Jeff Adamovicz, Ph.D., RBP)

Principal investigator, Wyoming Livestock Board brucellosis funds. “Evaluation of the Role of Humoral and Cell-Mediated Immunity in the Efficacy of Experimental Alternative Schedule of Live-Attenuated RB51 Vaccination against Brucellosis in Cattle.” 2011-2013. Budget: \$25,000.

Co-principal investigator, UW Office of Academic Affairs. University of Wyoming Graduate Mentoring Initiative. 2012-2014. Budget: \$46,404.44.

Co-principal investigator, Wyoming Livestock Board. “Trichomoniasis in Wyoming beef cattle.” 2012-2013. Budget: \$20,000. (Principal Investigator: Chaoqun Yao, M.D., Ph.D.)

Principal investigator, Teton Science School Cooperative Agreement. “Distribution and feeding patterns for Tabanid flies, the vector of the arterial worm of sheep and cervids, *Elaeophora schneideri*.” 2012-2013. Budget: \$10,300.

Principal investigator, Wyoming Governor’s Big Game License Coalition. “The relevant vectors of *Elaeophora schneideri* in Wyoming.” 2012-2014. Budget: \$20,000.

Co-principal investigator, USDA/FAS/OCBD. “Scientific exchanges East Africa (Kenya, Uganda, and Tanzania) in brucellosis training and control program development.” 2013. Budget: \$112,000. (Principal Investigator: Walter Cook, DVM, Ph.D.)

Principal investigator, Meg and Bert Raynes Wildlife Fund. “Distribution, prevalence, and feeding patterns for Tabanid flies, the vector of the arterial worm of sheep and cervids, *Elaeophora schneideri*.” 2013-2014. Budget: \$4,939.

Co-investigator, Wyoming Wildlife-Livestock Disease Research Partnership. “Identification of epizootic hemorrhagic disease virus serotype and genotype presence and distribution in the state of Wyoming.” 2013-2015. Budget: \$61,236. (Principal Investigator: Myrna Miller DVM, Ph.D.)

*Principal investigator, FAZD Center HS-STEM Career Development fellowship for Noah Hull. 2013-2016. Budget: \$104,121.

Principal investigator, Wyoming Department of Agriculture brucellosis funds. “Polymerase chain reaction diagnostic test creation and validation for brucellosis.” 2013-2014. Budget: \$15,500.

Last updated 5/16/16

- *Principal investigator, Wyoming Department of Agriculture – Agriculture Producer Research Grant Program. “Development and validation of a polymerase chain reaction test for diagnosis of *Brucella abortus* infections in livestock in Wyoming.” 7/1/14-7/31/16. Budget: \$40,000.

- Co-Principal investigator, Wyoming Department of Agriculture – Agriculture Producer Research Grant Program. “Evaluation of the role of cell-mediated immunity in efficacy of experimental alternative schedule of live attenuated RB51 vaccine against brucellosis in cattle.” 2014. Budget: \$19,000. (Principal Investigator: Jeff Adamovicz, Ph.D., RBP)

- Principle investigator, NASA Wyoming Space Grant fellowship in support on Jonathan Miller. “Food security and safety for long-term space expedition.” 2014-2015. Budget: \$5,000.

- Principal investigator, Summer Research Apprenticeship Program in support of John Lopez. 2014. Budget: \$3,000.

- *Principal investigator, Wyoming Wildlife Livestock Disease Research Partnership. “Development and validation of a polymerase chain reaction assay for diagnosis of bovine brucellosis.” 11/3/14-9/30/16. Budget: \$68,212.83.

- *Principal investigator, University of Wyoming, College of Agriculture and Natural Resources Brucellosis Funds. “Detection and differentiation of field and vaccine strains of *Brucella abortus* infections in livestock and wildlife in the greater Yellowstone area.” 10/29/14-6/30/16. Budget: \$33,960.

- *Principal investigator, University of Wyoming Canine Dysautonomia fund. 2014. Private donations. Budget: \$1,382.

- *Principle investigator, NASA Wyoming Space Grant fellowship in support on Jonathan Miller. “Food security and safety for long-term space expedition, Year 2.” 2015-2016. Budget: \$5,000.

- *Principal investigator, University of Wyoming Canine Dysautonomia fund. 2015. Private donations. Budget: \$1,875.

- *Co-investigator, USDA-Animal and Plant Health Inspection Service. “Animal Disease Economics Research: Small Ruminant Feedlots, Wildlife-Livestock Interactions, and Foreign Animal Disease Outbreaks.” 2015-2016. Budget: \$60,000. (Principal Investigator: Dannele Peck, Ph.D.)

- *Principal investigator, Western Sustainable Agriculture Research & Education. “Increasing sustainable agriculture through enhanced diagnostics with *Brucella* infection.” 8/1/15-7/31/17. Budget: \$24,818.

- *Principal investigator, College of Agriculture and Natural Resources Brucellosis Funds. “Detection and differentiation of field and vaccine strains of *Brucella abortus* infections in livestock and wildlife in the greater Yellowstone area – Supplemental Request.” 12/6/15-6/30/16. Budget: \$20,189.

- *Co-Principal investigator, UW College of Agriculture and Natural Resources. “Impact of histophilosis on bovine respiratory disease on commercial beef operations.” 1/1/16-12/31/18. Budget: \$90,000. (Principal Investigator: Kerry Sondgeroth, DVM, Ph.D.)

- *Principal investigator, EPSCoR undergraduate research fellowship in support of Corinne Vaughan. “The validation of a novel qPCR assay for brucellosis.” 2016-2017. Budget: \$4,500.

Last updated 5/16/16

*Principal investigator, NASA Wyoming Space Grant fellowship in support of Sierra Amundson.
“Ensuring a safe and secure food supply for long-term space expedition.” 2016-2017. Budget: \$5,000.

*Principal investigator, University of Wyoming, College of Agriculture and Natural Resources
Brucellosis Funds. “Validation of a novel qPCR assay for detection and differentiation of *Brucella abortus*, *B. suis*, and *B. melitensis* field strains and vaccine strains.” 4/20/16-06/30/16. Budget:
\$23,572.

*Co-Principal investigator, University of Wyoming, College of Agriculture and Natural Resources
Brucellosis Funds. “Quantifying wildlife-livestock interactions to inform brucellosis modeling.”
4/20/16-6/30/16. Budget: \$30,000.

CONTRACTS FUNDED (* denotes active contracts)

Principle investigator, USDA-APHIS cooperative agreement. “Project proposal/ work plan and budget for
managing animal health technical services, cattle health, equine, cervids and small ruminant health
for 2015.” 4/1/15-6/30/15. Budget: \$13,653.

*Principle investigator, Wyoming Livestock Board. “Project proposal/ work plan and budget for
managing animal health technical services, cattle health, equine, cervids and small ruminant health
for 2015.” 6/25/14-6/30/16. Budget: \$218,000.

Principle investigator, USDA-APHIS cooperative agreement. “Project proposal/ work plan and budget for
managing animal health technical services, cattle health, equine, cervids and small ruminant health
for 2015.” 4/1/15-3/31/16. Budget: \$140,531.16.

*Principle investigator, USDA-APHIS cooperative agreement. “Project proposal/ work plan and budget
for managing animal health technical services, cattle health, equine, cervids and small ruminant
health for FY2016.” 4/1/16-3/31/17. Budget: \$140,531.16

PROPOSALS NOT FUNDED

Principal investigator, Center for Foreign Animal and Zoonotic Disease Defense (FAZD). “Effects of
hunting pressure on elk distribution and movements: Applications of variable hunting pressure in a
foreign animal disease outbreak response.” 7/1/11-6/30/12. Budget: \$126,244. (Not supported).

Co-principal investigator, Center for Foreign Animal and Zoonotic Disease Defense (FAZD). “A new
technique for estimating disease transmission probabilities using high-resolution animal location data:
Application to livestock-wildlife interactions in a western rangeland setting.” 7/1/11-6/30/12. Budget:
\$99,509. (Principal Investigator: Dannele Peck, Ph.D.). (Not supported).

Co-investigator, National Science Foundation – Partnerships for International Research and Education.
“Collaborative research and education in “epinomic” modeling of diseases at the wildlife-livestock
interface.” 2011. Budget: \$4,000,000. (Principal Investigator: Dannele Peck, Ph.D.). (Not supported).

Principal investigator, Safari Club International Foundation. “Evaluation of *Elaeophora schneideri* in
Wyoming moose.” 6/1/12-5/31/13. Budget: \$4,998.50. (Not supported).

Principal investigator, Faculty Grant-in-aid Program (UW). “An epidemiological investigation of canine
dysautonomia in Wyoming.” 1/1/12-7/31/13. Budget: \$7,500. (Not supported).

Principal investigator, Morris Animal Foundation. “An epidemiological investigation of canine
dysautonomia in Wyoming.” 8/1/12-7/31/13. Budget: \$10,800. (Not supported).

Last updated 5/16/16

Principal investigator, Morris Animal Foundation. “Anti-ganglionic antibodies as a mechanism for canine dysautonomia.” 9/1/13-8/31/14. Budget: \$10,800. (Not supported).

Principal investigator, Pew Charitable Trust Scholar Program in the Biomedical Sciences. “Surveillance and diagnosis of human brucellosis in Tanzania.” 2013. Budget: \$240,000. (Not supported).

Co-Principal investigator, Bill and Melinda Gates Foundation. “Enhancement of livestock health for sustainable livestock productivity in Tanzania through early brucellosis detection.” 7/1/14-6/30/18. Budget: \$496,887. (Principal Investigator: Jeffrey Adamovicz, Ph.D., RBP) (Not supported).

Principal investigator, University of Wyoming, College of Agriculture and Natural Resources, Agricultural Experiment Station. “Development and validation of a polymerase chain reaction test for diagnosis of *Brucella abortus* infections in livestock and wildlife in the greater Yellowstone area.” 1/1/14-8/1/16. Budget: \$75,000. (Not supported).

Principal investigator, NSF-Evolution and Ecology of Infectious Diseases. “Risk of disease transmission at the human-domestic animal-wildlife interface.” 10/1/14-9/30/18. Budget: \$2,499,606. (Not supported).

Principal investigator, University of Wyoming Faculty Grant-in-aid Program. “Analytical sensitivity of PCR versus culture in *Brucella*-infected samples.” 7/1/14-6/30/15. Budget: \$7,135.33. (Not supported).

Principal investigator, University of Wyoming Office of Research Presidential \$250,000 Grant Initiative. “Analytical sensitivity of PCR versus culture in *Brucella*-infected samples.” 2014. Budget: \$22,305.98. (Not supported).

Principal investigator, Wyoming EPSCoR Undergraduate Research Fellowship in support of Jonathan Miller. “Validation of a molecular diagnostic assay for brucellosis using gel-based polymerase chain reaction.” 2014. Budget: \$3,500. (Not supported).

Principal investigator, University of Wyoming Summer Graduate Research/ Graduate Student enhancement in support of Amy Williams. 2014. Budget: \$5,000. (Not supported).

Principal investigator, Institute for Infectious Animal Diseases Open Call for Proposals. “Development and validation of a PCR assay to detect and differentiate field and vaccine *Brucella* spp. of homeland security importance.” 2014. Budget: Undefined. (Not supported).

Principal investigator, United Nations Food and Agriculture Organization. “FAO/IAEA diagnostic detection training program.” 10/1/15-11/15/15. Budget: \$79,558.46. (Not supported).

Principal investigator, USDA Foreign Agricultural Service. “Technical support to the USAID/ Tanzania economic growth PASA.” 6/1/15-5/31/18. Budget: \$2,500,000. (Not supported).

Co-investigator, University of Missouri, Faculty Research Grant Program. “Search for the etiologic agent of canine dysautonomia.” 1/1/16-12/31/16. Budget: \$18,000. (Not supported).

Co-principal investigator, USDA-APHIS. “Quantifying wildlife-livestock interactions to inform disease modeling.” 10/1/16-9/30/19. Budget: \$209,000. (Not supported).

Last updated 5/16/16

Principal investigator, NASA Wyoming Space Grant graduate fellowship in support of Noah Hull.

“Creation of novel diagnostics for food security and safety of long-term space expedition.” 2016-2017. Budget: \$20,000. (Not supported).

TEACHING (including guest lectures)

PATB 4001	Epidemiology (3 cr.; 2011-Present; 16-36 students)
PATB 5515	Graduate Seminar in Pathobiology (1 cr.; 2010-Present; 4-6 graduate students)
PATB 5900	Practicum in College Teaching (1 cr.; F'11, F'12, S'14, S'15, S'16; 1 student each semester; Graduate student teaching experience in PATB/MICR 4001/5001)
PATB 4050	Problems in Pathobiology (2-4cr.; S'12, S'14, F'15; 1-2 undergraduate students)
PATB 5505	Investigations in Pathobiology (2-3cr.; Summ'12, F'12; 1-2 students)
PATB 5960	Thesis Research (1-8 cr.; Summ'12, S'13, Summ'13, F'13, S'14, Summ '14, F'14; 1 graduate student)
PATB 5980	Dissertation Research (1-8 cr.; Summ'11, S'14, Summ'14, S'15, Summ'15, F'15, S'16; 1-2 graduate students)
PATB 5940	Continuous Registration (1 cr.; S'15; 1 graduate student)
PATB 1101	First-year Seminar (2015-Present) – Guest lecturer
PATB 4120	Diseases of Wildlife (2012-Present) – Guest lecturer
HLSC 5990	Public Health Seminar (2012-Present) – Guest lecturer
MOLB 1010	Science and Society (2014) – Guest lecturer
ANSC 4630	Issues in Animal Science (2013) – Guest lecturer
PATB 4130	Mammalian Pathobiology (2011) – Guest lecturer

Laramie County Community College

Animal Health and Management – Guest lecture, September 13, 2011

University of California, Davis

One Health Perspectives; “UC Davis Peer Presentation” - Seminar, May 17, 2010

Health and Disease in Terrestrial Wildlife; “Wildlife Disease Risk Assessment” - February 6, 2009

Conservation Biology and Veterinary Medicine; “Threats to Sierra Nevada Bighorn Sheep: Modeling Risk of Interspecies Disease Transmission” - February 13, 2007

UC Davis Freshman Seminar; “Disease Management in Free-ranging Populations” - Spring, 2006

ADVISING

Graduate students:

Current

Molly Elderbrook – M.S. committee, 2015-Present

Noah Hull – PhD Advisor, 2014-Present

Matthew Cuzzocreo – M.S. committee, 2014-Present

Rachel Jennings – PhD committee, 2013-Present

Previous

Melia DeVivo – PhD committee, 2010-2015

Amy Williams – M.S. Advisor, 2011-2015

Thesis: *Distribution and feeding patterns for Tabanid flies, the vectors of the carotid artery worm, Elaeophora schneideri*

Alex Kesterson – M.S. committee, 2012-2015

Krista Latta – M.S. committee, 2013-2014

Bayar Saeed – M.S. committee, 2013-2014

Kari Boroff – M.S. committee, 2011-2013

Last updated 5/16/16

Mandy Kauffman – M.S. Co-Advisor, 2010-2013

Thesis: *Using survey data to model the probability of elk-cattle co-occurrence during the winter/early spring brucellosis transmission risk period in the southern greater Yellowstone area*

David Edmunds – PhD committee, 2011-2013

Yinzhu Jin – M.S. committee, 2011-2013

Kelsie Speiser – M.S. committee, 2011-2013

Alisa Siceloff – PhD committee, 2012

Undergraduate research mentees:

Current

Sierra Amundson – Undergraduate research mentor, 2015-Present; not for credit

Corinne Vaughan – Undergraduate research mentor, 2016; not for credit

Previous

Jonathan Miller – Undergraduate research mentor, 2014-2016; not for credit

Nika Martin – Undergraduate research mentor, 2015; 2 credits

Brittney Rodgers – Honor's thesis mentor, 2014-2015; not for credit

David Berry – Undergraduate research mentor, 2013-2014; 3 credits

Adam Sittner – Undergraduate research mentor, 2014; 3 credits

BreAnna Bonner – Undergraduate research mentor, 2012-2013; 2 credits

Kathryn Drumhiller – Undergraduate research mentor, 2011-2012; 4 credits

Noah Hull – Undergraduate research mentor, 2011-2012; 4 credits

High School student research mentees:

Previous

John Lopez – Summer Research Apprenticeship Program student, 2014

Advising students:

Current

Robert Ziegler (2015-Present)

Sierra Amundson (2015-Present)

Shailah Geist (2014-Present)

Jessica Jennings-Gaines (2013-Present)

Sarah Myers (2013-Present)

Megan Weisensee (2013-Present)

Previous

Connor Madsen (2015-2016)

Timsan Wilkie (2015-2016)

Hannah Shoults (2014-2016)

Laura Strohecker (2014-2016)

Emilee Brinton (2013-2016)

Megan MacFarlane (2013-2016)

Jonathan Miller (2013-2016)

Carissa Poindexter (2012-2016)

Kathryn Schumacher (2011-2015)

Brittney Rodgers (2011-2015)

Katherine Hayes (2014-2015)

Lane Wilson (2014-2015)

Heidi Edwards (2013-2014)

Carly Stewart (2012-2014)

A'Leonne Johnston (2012-2013)

Carolyn Hammersmark (2011-2013)

Last updated 5/16/16

Stephanie Duckett (2012)
Sydni Krossschell (2012)
Shealynne Yeager (2011-2012)
Katie Walker (2011-2012)
Katherine Brandenburg (2011)
Alecia Cushman (2011)

Other educational experience:

Borlaug fellows, Brucellosis Diagnostics and Epidemiology

Paul Boma (2014)
John Bosco Kalule (2014)
George Makingi (2014)
Evalyn Mwihi (2014)
Portas Olwande (2014)
Gabriel Shirima (2014)

SERVICE & PROFESSIONAL ACTIVITIES

ACADEMIC AND COMMUNITY SERVICE

Ad-hoc Reviews: BioScience (2014), Alberta Prion Research Program (2014), PLoS ONE (2012-2013), Human-Wildlife Interactions (2011), UW Water Research Program (2011)
Epidemiology Committee, American Association of Veterinary Laboratory Diagnosticians (10/12-Present)
Committee on Wildlife Diseases, United States Animal Health Association (10/12-Present)
Wildlife Disease Association Student Awards Committee (9/12-Present)
AVMA Committee on Environment Issues (8/12-Present)
AAVLD alternate delegate (12/11-Present)
Wyoming Domestic Sheep/ Bighorn Sheep Interaction Working Group (12/10-Present)
AVMA Council on Public Health and Regulatory Veterinary Medicine (7/10-Present)
Committee on Brucellosis, United States Animal Health Association (2009-Present)
AVMA Food Safety Advisory Committee (2/11-2014); Vice-chair (2012); Chair (2013-2014)
External Advisory Board - USDA Mycobacterial Diseases of Animals Multistate Initiative, AVMA-CPHRVM (10/12-2/14)
Thorne-Williams Wildlife Research Unit IACUC Committee (2013)
USAHA Johne's Disease Working Group Liaison, AVMA-CPHRVM (9/10-10/12)
AVMA Advisory Subcommittee, California Veterinary Medical Association (2007-2011)
International Programs Committee, UC Davis School of Veterinary Medicine (2009-2010)
Student Governor, California Veterinary Medical Association (6/03-6/04)

UNIVERSITY/DEPARTMENTAL

Search committee, Veterinary Toxicologist (2016-Present)
Microbiology program steering committee (2015-Present)
Serology Section Head, Wyoming State Veterinary Laboratory (2015-Present)
Department Representative, Wyoming Chapter of the Gamma Sigma Delta Honor Society for Agriculture (2014-Present)
Graduate student coordinator, Veterinary Sciences (8/11 – Present)
Vice President, Wyoming Chapter of the Gamma Sigma Delta Honor Society for Agriculture (2016-2017)
Treasurer/Secretary, Wyoming Chapter of the Gamma Sigma Delta Honor Society for Agriculture (2015-2016)
Search committee chair, Diagnostic Pathologist (2014-2015; Juan Munoz-Gutierrez hired)

Last updated 5/16/16

Search committee, Excellence Chair in Disease Ecology (2013; Holly Ernest hired)

Search committee, Regulatory Serology technician (2013; Sylvia Green hired)

Search committee, Office staff (2013; Denise Manore hired)

University Studies Program committee (8/11 – 5/14); Chair (8/12 – 5/14)

GA allocation committee (2012)

Search committee, Office staff (12/11 – 2/12; Kathryn Talbott hired)

Search committee, WSVL director. (2011; Will Laegreid hired)

PROFESSIONAL DEVELOPMENT ACTIVITIES

Interface Disease Models Investigative Workshop, National Institute for Mathematical and Biological Synthesis (NIMBioS; 2011)

Modeling Johne's Disease Investigative Workshop, National Institute for Mathematical and Biological Synthesis (NIMBioS; 2014)

PROFESSIONAL AFFILIATIONS

United States Animal Health Association (2008-Present)

Wildlife Disease Association (2003-Present)

American Veterinary Medical Association (2001-Present)